

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Amalia Wank Examiner #: 75063 Date: 6/14/2003  
 Art Unit: 1752 Phone Number 30 5-0407 Serial Number: 09/939842  
 Mail Box and Bldg/Room Location: 003 0830 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations; authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a program comprising the numerous units as described by the present claim 15 (attached). Thank you.

## STAFF USE ONLY

## Type of Search

## Vendors and cost where applicable

Searcher: EL NA Sequence (#) \_\_\_\_\_ STN P189.15  
 Searcher Phone #: \_\_\_\_\_ AA Sequence (#) \_\_\_\_\_ Dialog \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_ Structure (#) (4) Questel/Orbit \_\_\_\_\_  
 Date Searcher Picked Up: \_\_\_\_\_ Bibliographic \_\_\_\_\_ Dr. Link \_\_\_\_\_  
 Date Completed: 6-12-02 Litigation \_\_\_\_\_ Lexis/Nexis \_\_\_\_\_  
 Searcher Prep & Review Time: 5 Fulltext \_\_\_\_\_ Sequence Systems \_\_\_\_\_  
 Clerical Prep Time: \_\_\_\_\_ Patent Family \_\_\_\_\_ WWW/Internet \_\_\_\_\_  
 Online Time: 55 Other \_\_\_\_\_ Other (specify) \_\_\_\_\_

=> file reg

FILE 'REGISTRY' ENTERED AT 09:15:54 ON 12 JUN 2002  
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STRUCTURE FILE UPDATES: 10 JUN 2002 HIGHEST RN 428438-29-3  
DICTIONARY FILE UPDATES: 10 JUN 2002 HIGHEST RN 428438-29-3

TSCA INFORMATION NOW CURRENT THROUGH January 7, 2002

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES  
for more information. See STNote 27, Searching Properties in the CAS  
Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d his

(FILE 'HOME' ENTERED AT 08:24:04 ON 12 JUN 2002)

FILE 'LREGISTRY' ENTERED AT 08:24:11 ON 12 JUN 2002

L1 STR  
L2 STR  
L3 STR  
L4 STR

FILE 'REGISTRY' ENTERED AT 08:49:24 ON 12 JUN 2002  
E C7H9N5

FILE 'ZCAPLUS' ENTERED AT 08:56:36 ON 12 JUN 2002

FILE 'CAOLD' ENTERED AT 08:58:08 ON 12 JUN 2002

FILE 'ZCAPLUS' ENTERED AT 08:58:25 ON 12 JUN 2002

FILE 'REGISTRY' ENTERED AT 09:02:27 ON 12 JUN 2002

L5 SCR 2043  
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L7 0 S L1 AND L3 AND L4 AND L5  
L8 0 S L2 AND L3 AND L4 AND L5  
L9 STR L2  
L10 0 S L9 AND L3 AND L4 AND L5  
L11 3 S L9 AND L3 AND L4 AND L5 FUL  
SAV L11 WAL842/A

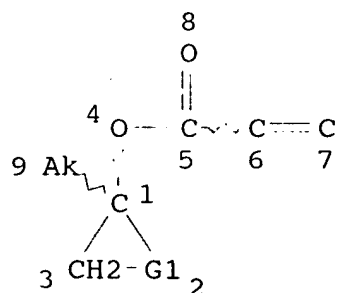
FILE 'ZCAPLUS' ENTERED AT 09:14:54 ON 12 JUN 2002

L12 2 S L11

FILE 'CAOLD' ENTERED AT 09:15:13 ON 12 JUN 2002  
L13 0 S L11

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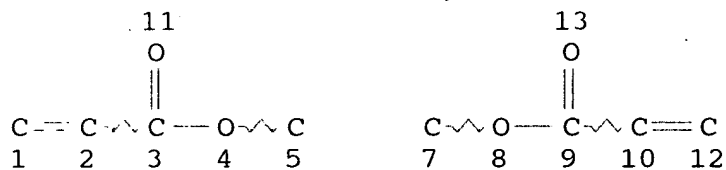
=> d l11 que stat  
L3 STR



REP G1=(2-6) CH2  
NODE ATTRIBUTES:  
CONNECT IS E1 RC AT 9  
DEFAULT MLEVEL IS ATOM  
GGCAT IS SAT AT 9  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS M1-X5 C AT 9

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE  
L4 STR



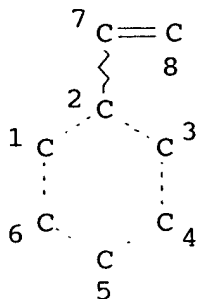
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DEFAULT MLEVEL IS ATOM  
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STEREO ATTRIBUTES: NONE  
L5 SCR 2043

L9

STR



## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

## STEREO ATTRIBUTES: NONE

L11 3 SEA FILE=REGISTRY SSS FUL L9 AND L3 AND L4 AND L5

100.0% PROCESSED 2108 ITERATIONS

3 ANSWERS

SEARCH TIME: 00.00.02

=&gt; file zcaplus

FILE 'ZCAPLUS' ENTERED AT 09:16:10 ON 12 JUN 2002

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FILE COVERS 1907 - 12 Jun 2002 VOL 136 ISS 24

FILE LAST UPDATED: 10 Jun 2002 (20020610/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d l12 1-2 ibib abs hitstr hitrn

L12 ANSWER 1 OF 2 ZCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:294155 ZCAPLUS  
DOCUMENT NUMBER: 136:316939  
TITLE: Semiconductor device preparation method using  
chemically-amplified positive working  
photoresist  
INVENTOR(S): Maemori, Satoshi; Sato, Kazufumi; Nitta,  
Kazuyuki; Oomori, Katsumi; Tani, Kazuo;  
Kinoshita, Yohei; Yamada, Tomotaka  
PATENT ASSIGNEE(S): Japan  
SOURCE: U.S. Pat. Appl. Publ., 11 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

*Priority  
Document*

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002045133	A1	20020418 <sup>PA</sup>	US 2001-939842	20010828
JP 2002148816	A2	20020522	JP 2000-357595	20001124
PRIORITY APPLN. INFO.:			JP 2000-264528	A 20000831
			JP 2000-357595	A 20001124

AB The invention discloses an improvement in the photolithog. patterning process of a photoresist layer in the manuf. of semiconductor devices in which occurrence of defects in the patterned resist layer can be greatly suppressed resulting in increased reliability of the semiconductor devices and process productivity. The improvement can be accomplished by using a chem.-amplification pos.-working photoresist compn. which exhibits a rate of film thickness redn. in the range from 0.09 to 1.0 nm/s when the photoresist layer before light-exposure is kept in a 2.38% aq. soln. of tetramethylammonium hydroxide at 23.degree. C. to dissolve away the resist layer.

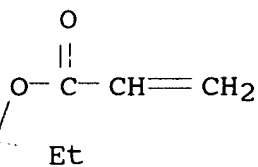
IT **412046-04-9**  
(semiconductor device prepn. method using chem.-amplified pos. working photoresist)

RN 412046-04-9 ZCAPLUS  
CN 2-Propenoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester, polymer with ethenylbenzene, 4-ethenylphenol and 1-ethylcyclohexyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 251909-25-8

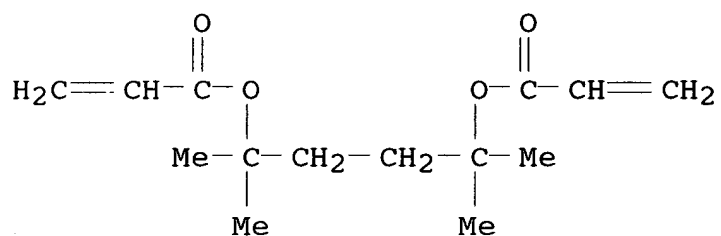
CMF C11 H18 O2



CM 2

CRN 188837-15-2

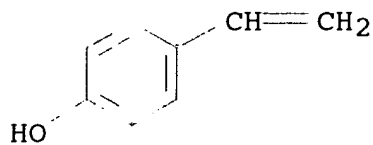
CMF C14 H22 O4



CM 3

CRN 2628-17-3

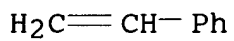
CMF C8 H8 O



CM 4

CRN 100-42-5

CMF C8 H8



IT 412046-04-9

(semiconductor device prepn. method using chem.-amplified pos. working photoresist)

L12 ANSWER 2 OF 2 ZCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:157200 ZCAPLUS

DOCUMENT NUMBER: 136:207692

TITLE: Crosslinked positive-working photoresist composition

INVENTOR(S): Oomori, Katsumi; Kinoshita, Yohei; Yamada, Tomotaka; Takayama, Toshikazu

PATENT ASSIGNEE(S): Tokyo Ohka Kogyo Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1182506	A1	20020227	EP 2001-306923	20010814
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002062655	A2	20020228	JP 2000-250174	20000821
JP 2002062656	A2	20020228	JP 2000-250175	20000821
US 2002034704	A1	20020321	US 2001-928399	20010814
PRIORITY APPLN. INFO.:			JP 2000-250174	A 20000821
			JP 2000-250175	A 20000821

AB A chem.-amplification pos.-working photoresist compn. of the crosslinked type used for photolithog. patterning works in the manuf. of electronic devices comprises a film-forming resinous ingredient capable of being imparted with increased alkali-soly. in the presence of an acid and a radiation-sensitive acid-generating compd., optionally, with further admixt. of an aliph. amine compd. and an acid compd., being characterized by a unique resinous ingredient which consists of four types of monomeric units including hydroxystyrene units, styrene units, monomeric units having acid-dissociable soly.-reducing groups and crosslinking units. The acid-dissociable soly.-reducing group is not a conventional tert-butoxycarbonyloxy group but characteristically a 1-alkylcyclohexyl group or a polycyclic satd. aliph. hydrocarbon group.

IT 400865-44-3, 2,5-Dimethyl-2,5-hexanediol diacrylate-1-ethylcyclohexyl acrylate-hydroxystyrene-styrene copolymer 400865-46-5  
(crosslinked pos.-working photoresist compn. contg.)

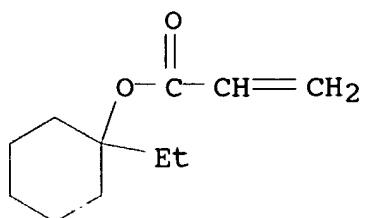
RN 400865-44-3 ZCAPLUS

CN 2-Propenoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester, polymer with ethenylbenzene, ethenylphenol and 1-ethylcyclohexyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 251909-25-8

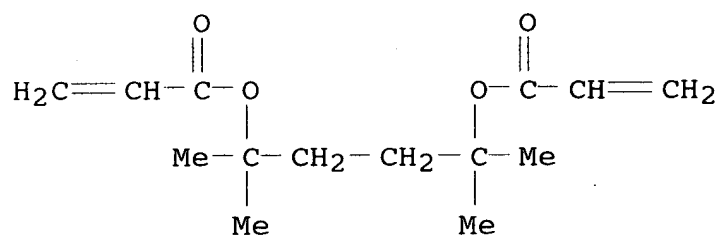
CMF C11 H18 O2



CM 2

CRN 188837-15-2

CMF C14 H22 O4



CM 3

CRN 31257-96-2

CMF C8 H8 O

CCI IDS

CDES 8:ID





D1- OH

D1- CH=CH<sub>2</sub>

CM 4

CRN 100-42-5

CMF C8 H8

H<sub>2</sub>C=CH- Ph

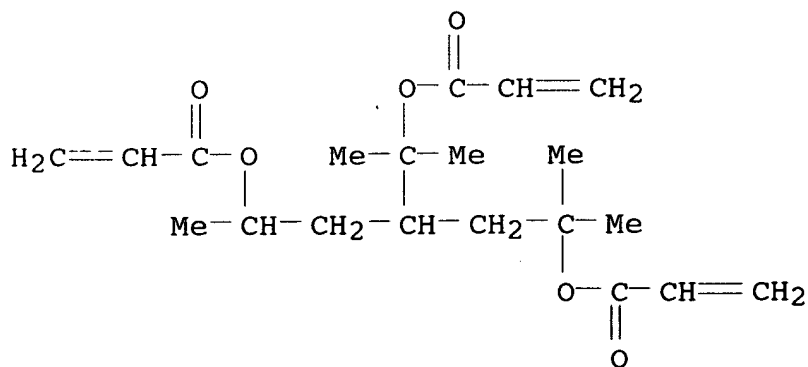
RN 400865-46-5 ZCAPLUS

CN 2-Propenoic acid, 1,1,5-trimethyl-3-[1-methyl-1-[(1-oxo-2-propenyl)oxy]ethyl]-1,5-propanediyl ester, polymer with ethenylbenzene, ethenylphenol and 1-ethylcyclohexyl 2-propenoate (9CI) (CA INDEX NAME)

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CRN 400865-45-4

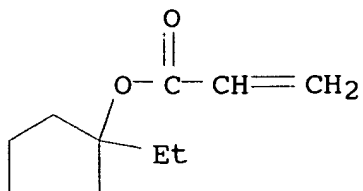
CMF C20 H30 O6



CM 2

CRN 251909-25-8

CMF C11 H18 O2



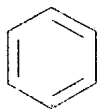
CM 3

CRN 31257-96-2

CMF C8 H8 O

CCI IDS

CDES 8:ID



D1- OH

D1- CH=CH<sub>2</sub>

CM 4

CRN 100-42-5

CMF C8 H8

H<sub>2</sub>C=CH-Ph

IT **400865-44-3**, 2,5-Dimethyl-2,5-hexanediol  
diacrylate-1-ethylcyclohexyl acrylate-hydroxystyrene-styrene  
copolymer **400865-46-5**  
(crosslinked pos.-working photoresist compn. contg.)

REFERENCE COUNT:

6      THERE ARE 6 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN  
THE RE FORMAT